THE AUTOMOTIVE INDUSTRY RESEARCH AND DEVELOPMENT/TECHNOLOGY FORUM

Report out of the Desired Future

GROUP 1

- Will have had at least 8 years of industrial and trade policy that was clearly defined and consistant - history has been made!!
- To get there, industry has been much more vocal, focused in pressuring government.
- There is a well educated work force - at all levels - not just engineers.
  - equal to German or Japanese
- Consistent standards of education - provincial, colleges, universities
- OEM's on a single, standardized computer system for communications
- Must be action rather than rhetoric from government
- Trade and industry policies must be consistent through one Minister and one Ministry i.e. put Industry, Trade and Commerce back together
- Risk taking is more evenly shared between industry and government - not through capital, but recognizing cost involved in tax system
- Industry has more input in trade and industrial policy decisions.

GROUP 2

Canada is among the leading industrial nations, and the auto industry is its premier industry.

EDUCATION

- Professional teaching workforce
  - highly paid, most competent, motivated.
  - also computer based education
  - kids understand capitalism, industrialism and government policy focus.
  - they understand importance of producers
  - Tool & Die is an esteemed profession - "popularization"
  - recognition that manufacturing is essential - a necessary ingredient in a successful economy
  - it is the foundation of our social services
- We have a strong work ethic (we value dreamers and doers)
- Emphasis on fundamentals - read, write, calculate - high standards of achievement.
- System of technical education linked to apprenticeship (3 levels).
  - have centres of excellence in technical education
- Strong system of technical institutions (tool & die, design, etc.)
- We offer stable compensation and employment
- Centres of Excellence in materials, sciences (at the leading edge), moving toward "transportation design"
- Adequate funding (private and government) for universities to do their jobs.
- Technical professionals are valued as highly as general managers
- We do: Management of technology (training for it), entrepreneurships.
  - most Canadian manufacturers use advanced manufacturing techniques
- Funding is not government (i.e. politically) controlled.

A GOVERNMENT POLICY FRAMEWORK that is long-term and supportive equally for the automotive sectors for all who want to compete and that benefits Canadian-based enterprises. This would produce:

- Predictable and stable exchange rates
- Stable interest rates, equal to the top 3 or 4 industrial nations
- Tax policies that risk/share advanced process and materials technology applications and component/sub-assembly design
- Tax policies that provide greater profit incentives for companies who integrate and sustain meaningful operations in Canada
- The maintenance of strong industrial infrastructure support - transport; telecom; environmental; in-plant training and re-training.
- Harmony in policies among federal, provincial, local governments.
- Policies that promote work ethic
- Coordination of policies among - government, industry, labour, academia
  - "leverage and partnership"
- Targetted programming to support technology advancement. (In relevant, leading-edge areas).

INDUSTRY STRUCTURE

- We have found process/product niches where we have a sustainable competitive advantage
- We are strong in fast turn-around, high complex, low overhead areas
  - result - comparative advantages
- Suppliers are strong, with diversified markets, in control of their own destiny
- Labour is a real Partner

GROUP 3

- Model Firm and other interested stakeholders
  - customer, managers, workers, shareholders, lenders, community & governments (3 levels)
- Each understands and respects each others role
- Shared values -->> contract
- Shared risk and rewards
- Shared inputs to refine and achieve vision
  - risk sharing, reward sharing
  - cooperative
  - involved - shared ownership
  - productive
  - responsible
  - self-esteem
  - better basic education
  - role models

- APMA Tech Centre
  - R & D
  - prototype shop
  - tech brokerage
- Modern operating agreements as norm with CAW
- Have convinced Canadians that the "quality of life" is enhanced by productivity
- Supportive tax regime -->> risk/reward.

GROUP 4

Vision for the Future

- To survive without erosion of the disciplines that encompass:
  - quality/cost/delivery/to world competition
  - social issues - Q. O.L.
  - R.O.I.
  - technology
  - common purpose management and labour
- Characteristics of an R & D/Dev. & Eng. framework:
  - policy framework is consistent - complicated tax law
  - proper definition of R & D from a government perspective
  - partnership - customer/supplier/government
  - research and development should be shared - supplier/customer
- Provision for new ideas - new products - new companies (no room for complacency)
- Must preserve the entrepreneurial nature of the auto parts/car assembly business
- Future R & D must focus on being first and best
- R & D community can learn from other models i.e. computer industry
- R & D community must have ongoing dialogue with the government
- R & D community must have sectoral consensus and commitment to the central vision.
- Much of parts R & D community may evolve through strategic alliances (e.g. Chrysler/G.M. - new process - hydramatic)
- R & D must have an accessible forum for world class technology

GROUP 5

In an open, competitive global market:

- Establish a Canadian Automotive identity - a mystique - so that people want to:
  - buy Canadian cars
  - build plants in Canada
  - hire Canadians
  - work in Canada
- To do that, we need something to build on
- From the outside, Canadians are seen as easy to work with
  - we have a tendency to team play (rather than individual heroics)
  - we have had a good work ethic
- Based on that, we can aspire to be seen as the BEST PARTNER
- The image is one of excellence in response - an industry capable of recognizing a change in market requirements (whether determined by environmental, or energy limitations, or the needs of a new market once Eastern Europe or the USSR) and being able to deliver a useable technology.
- Canada can participate at all levels from research through development to engineering technology and can be excellent if it concentrates on niches at each level.
- Research
  - fundamental research into knowledge of materials, measurement, freezing and melting phoenomena, deformation, etc.
  - ongoing, indefinite in time frame
- Development
  - tranforming the products of research into defined, tested technology that can be used in an engineering sense
  - also indefinite in time, but expensive - focussed on potential use.
- 48 months to 0 months before production
  - engineering technology - product design and process engineering to apply proven technology to process and saleable, reliable vehicle

- Canada has some research capability, needs to reinforce the emerging willingness to accept the discipline of moving through development to useable technology.
  - legitimize the bridge to the real world.
  - the technology of measurement could be a Canadian niche (poor observation is more dangerous than bad theory).
- The critical issue is the use of people
  - make the industry more attractive
  - good leadership that lets skills at all levels be used and rewarded (including psychologically) so that peoples' intelligence gets used for the industry, not against it!
- Wish list for the Future
  - Relationships - more trust - no lawyers
  - Totally linked electronically
  - Focus on innovation in all functions throughout company
  - Information - better access - easier to play with
  - Processes (manufacturing) - more flexible - easier to take risks
  - People: attract top people - linkages with "suppliers" of components, ideas, knowledge
  - Get rid of branch-plant mentality
  - Educated market place
  - Financing - willing investment community.

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Setting of Objectives

OBJECTIVE	WHO	WHEN
RESEARCH CENTRE		

• Explore the establishment of a Research Centre devoted to the development of new fuels/chemicals & materials to be used within the auto industry.
- Alternate Fuels
- Ceramics
- Liteweight steels
- Aluminum
- Plastics
- Market demand driven
- Fund on project basis
- Prototype shop/design build - testing/evaluation
- Tech brokerage
  - relations with universities
  - data clearing house
  - international J.V.'s clearing
- Utilize retired engineers in beginning
  - have network
  - train young grads
  - tool & die opportunities
- Post-mortem on OCAPT
- IRDI (tool & die)?
	R & D Sub-Committee	Feasibility Study
		Time Frame
		9 months